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THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : M. Allen Northrup et al.
Serial No.: 08/900,735
Filed : 07/24/1997
Title : MICROFABRICATED REACTOR

Art Unit: 1634
Examiner: Sisson, B.

Assistant Commissioner for Patents
Washington, DC 20231

RESPONSE TO FINAL ACTION DATED AUGUST 26, 1999

Claims 1 and 93-123 are pending.

A Declaration Under 37 CFR § 1.131 has been filed along with this Response to replace the Declaration filed on July 12, 1999. In addition, a Declaration of William J. Egan, III has been filed along with this Response.

I. The Examiner's Prior Art Rejections

The examiner has rejected claims 1 and 93-121 under U.S.C. § 102(e) or in the alternative, under U.S.C. § 102(a) over Wilding et al. (U.S. 5,486,335, Wilding I) or Wilding et al. (U.S. 5,498,392, Wilding II). For the reasons explained below, neither Wilding I nor Wilding II constitute prior art with respect to the present invention and, accordingly, the examiner's prior art rejections should be withdrawn.

II. Declarations

Applicants' present application was filed on July 24, 1997 and claims priority back to August 31, 1992, the filing date of the parent application (U.S. 5,639,423), under 35 U.S.C. § 120. Although the effective filing date (May 1, 1992) for both Wilding I and Wilding II is earlier than the effective filing date of the present application (August 31, 1992), the inventors completed the conception of the invention prior to May 1, 1992, and due diligence was exercised from prior to May 1, 1992 to August 31, 1992, the effective filing

Date of Deposit January 5, 2000
I hereby certify under 37 CFR 1.8(a) that this correspondence is being deposited with the United States Postal Service as first class mail with sufficient postage on the date indicated above and is addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231.
Bridget Congar
BRIDGET CONGAR

date of the present application.

As evidenced by the attached Declaration Under 37 CFR § 1.131, the inventors completed the conception of an apparatus (see, e.g., Exhibit A) having the features recited in independent claims 1 and 104 prior to May 1, 1992. The apparatus included a reaction chamber and at least one reactant chamber, at least one channel interconnecting the reaction and reactant chambers, a heater configured to heat reactants in the reaction chamber, a temperature controller coupled to the heater and configured to control the temperature of a reaction in the reaction chamber, and a product analysis chamber coupled to the reaction chamber and adapted to analyze reaction products contained in the product analysis chamber.

Prior to May 1, 1992, the inventors worked on the invention to reduce to practice an apparatus ("apparatus A") having certain of the features recited in independent claims 1 and 104. In particular, apparatus A included a reaction chamber, a heater and a temperature controller (see, e.g., Exhibits B and C). Apparatus A was successfully operated to amplify a preselected polynucleotide in a sample (see, e.g., Exhibit D). Other operational tests conducted on apparatus A included homogeneous detection of the reaction products in the reaction chamber using UV light (see, e.g., Exhibit E).

As evidenced by the attached Declaration of William J. Egan, III ("Mr. Egan"), from the period extending from prior to May 1, 1992 to August 31, 1992, the effective filing date of the present application, the attorneys of record for Applicants exercised due diligence in preparing and filing the parent application (U.S. 5,639,423). On April 8, 1992, Mr. Egan had a telephone conference (Exhibit A) with Scott A. Taper, Jr. of the Office of Technology Licensing at the University of California, Berkeley regarding preparation of the parent application. Subsequently, on April 9, 1992, Mr. Egan discussed with Dr. M. Allen Northrup ("Dr. Northrup"), one of the inventors of the subject matter of the application, the fact that Mr. Egan would prepare an outline of the application, which would be expanded on later in a future meeting with Dr. Northrup. On May 11, 1992, Mr. Egan met with Dr. Northrup and Professor Richard M. White ("Prof. White"), the other inventor of the subject matter of the application, to discuss the details of the invention and preparation of the application. Drafts of the application were sent to the inventors on June 2, 1992, July 8, 1992 and August 28, 1992, each draft being revised per the inventors' comments. On August 31, 1992, the parent application was filed in the U.S. Patent and Trademark Office.

In sum, under 37 CFR § 1.131, neither Wilding I nor Wilding II constitute prior art, at least with respect to the features recited in the pending claims. Because each of the examiner's prior art rejections is based at least in part upon Wilding I and Wilding II, all of the examiner's rejections now should be withdrawn.

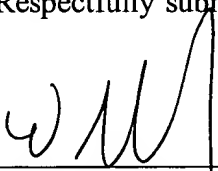
III. Conclusion

Applicants submit that all of the claims are now in condition for allowance, and now should be allowed.

Please charge any additional fees or credits to Deposit Account No. 06-1050.

Respectfully submitted,

Date: 1/5/00



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